

Duties of Project Engineer

The Project Engineer has the primary responsibility of producing a complete, accurate, biddable, and buildable set of plans for all the structures in a project. This responsibility should be performed with the least possible manpower expenditures.

The duties and traits of the Project Engineer that are common throughout Design are listed on the attached sheets. It should be noted that these duties may be extended or modified by factors such as the needs or desires of the Design Engineer, the Project Engineer's experience or the particular project requirements.

The Duties of a Project Engineer

1. Planning

- a) Reviews all preliminary reports including advance planning studies for the project. Proper shoulder widths, traffic and falsework clearances, approach slab status, and adequate stream flow and scour provisions must be verified prior to developing the General Plan.
- b) Investigates statements or site data in District reports which appear uneconomical or inconsistent with policies.
- c) Reviews bridge maintenance books and discusses with Bridge Maintenance Engineer for widening and rehabilitation projects.
- d) Determines Seismic Retrofit and scour mitigation requirements on existing bridges to be modified.
- e) Reviews locations of existing utilities for possible conflict and relocation. Establishes need to carry utilities or provide for future utilities.
- f) Reviews prior commitments to other agencies and coordinates commitments and DOS policies with District proposals. Hydraulic and railroad issues are particularly important.

Supersedes Memo to Designers 1-37 dated May 1989

- g) Determines architectural features in cooperation with Design Engineer and Structures Aesthetics Section.
- h) Determines basic structural geometry and assists designers in structural type selection.
- i) Prepares and submits Type Selection memo.
- j) Schedules Type Selection meeting.
- k) Schedules strategy meetings for earthquake retrofit projects.
- l) Prepares and submits minutes of strategy meeting.
- m) Conducts site reviews as necessary.

2. Coordination

- a) Coordinates structural details and design features within the project. Conducts meetings with designers and detailers as required.
- b) Standardizes details to permit reproduction rather than redrawing and seeks other methods of reducing plan cost.
- c) Works closely with other units (Geology, Specifications, SASA, Sietech, Estimating, Hydraulics, Maintenance, etc.) so that decisions in these areas are timely and consistent throughout the project.
- d) Keeps continual contact with District counterpart concerning project issues, progress, deadlines, and cost.

3. Project Control

- a) Reviews completed General Plans.
- b) Reviews General Plan estimates.
- c) Keeps record of Project Plan print distribution.

- d) Continually reviews details as they are being prepared.
- e) Reviews entire project for continuity and completeness.
- f) Reviews final estimates.
- g) Reviews road plans and dummy specifications.
- h) Reviews Structure Status for accuracy.
- i) Reviews monthly manhour summaries (BPRS Computer Program).
- j) Stays informed of project progress and informs the Design Engineer, Liaison Engineer and District Project Manager if there are problems developing which will affect PS&E date. Meets periodically with other units if their involvement affects the completion date. Such units may include other design sections, M&E, T&S, Architects, Geology, R.R. Agreements, Specifications, etc. Railroad agreements require very long lead times.
- k) Assures that pertinent information is transmitted to the R. E. Pending File (Memo to Designers 1-39).
- l) Assures that Joint Movement Rating sheets and 4-scales are available.
- m) Assures that Memo to Specifications Writer Form is complete and accompanies P&Q transmittal.
- n) Provides design assistance to Resident Engineer during construction phase including shop plan review.

4. Communications

- a) Maintains continual communications with all personnel assigned to the project.
- b) Handles and documents communications with District personnel and all support units.
- c) Handles and documents communications with Bridge Construction personnel.

5. *Personnel*

- a) Determines project staffing need with Design Engineer. Uses staffing chart with modifications for duplication of details and designer/detailer experience.
- b) Supervises project staff. May delegate technical supervision for portion of work.

NOTE: Some of the above tasks may be delegated to individual designers. An important part of a Project Engineer's duties includes recognizing the need for assistance to meet schedules.

Duties of a Project Engineer for "Combined Projects"

Combined projects are defined as those that contain facilities other than bridges, such as pumping plants, building, etc., typically designed by the Electrical-Mechanical-Sanitary Branch or the Transportation Architecture Branch.

It is the responsibility of the Bridge Project Engineer to be the total project coordinator for all portions of the project produced within the Office of Structure Design. This coordination responsibility is to include knowledge of all supporting units progress, ability to deliver PS&E on schedule, and for the exchange of mutually dependent design needs (loads, foundation data, geometric conflicts, etc.).

The Traits of a Project Engineer

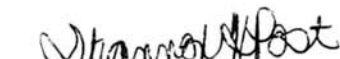
Designers interested in developing into a Project Engineer must obtain their Professional Engineer License and know on what basis a Project Engineer is selected. To satisfy this need, at least in part, the Design Engineers have listed the factors or traits considered when selecting a Project Engineer.

- a) Has developed technical skill.
- b) Gets along well with people.
- c) Is an innovator.
- d) Has initiative.



- e) Has the ability to communicate effectively.
- f) Is practical.
- g) Has leadership abilities and will make decisions.
- h) Keeps abreast of technical developments.
- i) Has an understanding of CALTRANS and DOS policies and procedures.
- j) Understands the importance of Project deadlines and costs.
- k) Keeps good records.
- l) Is organized.
- m) Is a motivator.


Floyd L. Mellon


Shannon H. Post

FLM:jh